

**METHOD AND APPARATUS FOR EXECUTING A
CRYPTOGRAPHIC ALGORITHM USING A RECONFIGURABLE
DATAPATH ARRAY**

ABSTRACT OF THE INVENTION

A digital signal processing apparatus and method for executing a block cipher routine. A method includes configuring a portion of an array of independently reconfigurable processing elements for performing the block cipher routine. The method further includes executing the block cipher routine on data blocks received at the configured portion of the array of processing elements. The non-configured portion of the array can be shut down to conserve power. An apparatus includes a context memory for storing one or more context instructions for performing the block cipher routine. The apparatus further includes an array of independently reconfigurable processing elements, each of which is responsive to a context instruction for being configured to execute a portion of the block cipher routine.